

What is claimed is:

1. A packet search device that performs packet filter search for an inputted packet, comprising:

5 a first search processing means for searching for search conditional statements corresponding to a plurality of information areas included in header information of said packet with a first search method; and

a second search processing means for searching the search results of said first search processing means with a second search
10 method that is different from said first search method.

2. The packet search device according to claim 1, wherein said first search processing means divides said packet header information into a plurality of information areas and searches across each search conditional statements structured as binary
15 search trees for each of said information areas separately.

3. The packet search device according to claim 2, wherein said second search processing means searches aggregated search results of said first search processing means using Hash method.

4. The packet search device according to claim 1, comprising
20 a search database for managing each search result of said first and second search processing means for each of said information area.

5. The packet search device according to claim 4, wherein said search database has a plurality of search keys.

6. The packet search device according to claim 3, wherein said second search processing means manages only combinations of
5 search results.

7. The packet search device according to claim 1, wherein at least QoS (Quality of Service) information and filter information are searched for based on said header information.

8. The packet search device according to claim 1, wherein said
10 packet search processing is performed at least in a router and a firewall.

9. A packet processing search method that searches for a packet filter for an inputted packet before performing packet processing, comprising:

15 a first step of searching for search conditional statements corresponding to a plurality of information areas included in header information of said packet with a first search method; and

a second step of searching the search results at said first
20 step with a second search method that is different from said first search method.

10. The packet processing search method according to claim 9, wherein said first step divides said packet header information

into a plurality of information areas and searches across each search conditional statements structured as binary search trees for each of said information areas separately.

11. The packet processing search method according to claim 10,
5 wherein said second step searches aggregated search results of said first step using Hash method.

12. The packet processing search method according to claim 9, wherein each search result at said first and second steps is managed for each of said information areas using a search database.

10 13. The packet processing search method according to claim 12, wherein said search database has a plurality of search keys.

14. The packet processing search method according to claim 11, wherein said second step manages only combinations of search results.

15 15. The packet processing search method according to claim 9, wherein at least Qos (Quality of Service) information and filter information are searched for based on header information in said packet.

16. The packet processing search method according to claim 9,
20 said packet search processing is performed at least in a router and a firewall.

17. A program for a packet processing search method that searches for a packet filter for an inputted packet before performing packet processing, causing a computer to execute,

5 first processing that searches for search conditional statements corresponding to a plurality of information areas included in header information of said packet with a first search method; and

10 second processing that searches the search results of said first processing with a second search method that is different from said first search method.